

**CLAIMS**

1. A solid-state X-ray detector comprising a photosensitive sensor (1), a scintillator (5), which  
5 converts the X-rays into radiation to which the sensor (1) is sensitive, and an entry window (8, 9) through which the X-rays upstream of the scintillator (5) pass, characterized in that the detector includes means for applying an electrical voltage between the entry window  
10 (8, 9) and the photosensitive sensor (1).

2. The X-ray detector as claimed in claim 1, characterized in that the scintillator (5) comprises a substrate (8) and a scintillating substance (7), in  
15 that the substrate (8) is separate from the sensor (1), and in that the substrate (8) forms the entry window of the sensor (1).

3. The X-ray detector as claimed in claim 1, characterized in that the scintillator (5) includes a scintillating substance (7), in that the sensor (1) is used as substrate for the scintillating substance (7), in that a foil (9) for protecting the scintillator (5) covers the scintillating substance (7) and in that the  
25 foil (9) forms the entry window of the sensor (1).

4. The detector as claimed in one of the preceding claims, characterized in that it includes means for the voltage to be applied substantially uniformly to the  
30 entry window (8, 9).

5. The detector as claimed in one of the preceding claims, characterized in that the electrical voltage is modulated over time.

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6. The detector as claimed in one of the preceding claims, characterized in that an additional window (10) is placed on the scintillator (5), without being fixed to the scintillator (5), and in that a moisture-

impermeable seal (11) fixes the additional window (10) and the sensor (1).

5 7. The detector as claimed in claim 6, characterized in that, the means for the voltage to be applied substantially uniformly comprise an electrical junction (20) passing through the additional window (10).

10 8. The detector as claimed in claim 6, characterized in that the means for the voltage to be applied substantially uniformly comprise a conducting passage (30) passing through the seal (11).

15 9. The detector as claimed in claim 6, characterized in that the means for the voltage to be applied substantially uniformly comprise a track (40) made on the photosensitive sensor (1).